

ABSTRACT OF THE DISCLOSURE

Coherent transmit macro-diversity involves transmitting simultaneous signals from one or more transmitters to one or more wireless receivers. Transmit signals are formed as weighted combinations of the individual information signals for each of the wireless receivers. By properly weighting these receiver-specific signals, the combined signals combine at each receiver to cancel all but the desired information signal for that receiver. This improves reception performance and allows multiple receivers to operate on the same communication channel in the same area if desired. The weighting factors used to form the combined signals are based on propagation path characteristics between each of the transmit antennas and each of the receivers. This information is generally referred to as a channel estimate matrix and is used to filter the information signals such that they may be combined in the required weighted combinations.